What is claimed is:

1. A stator comprising:

a bobbin having an axial winding wound therearound;

plural pole plates each having a pole end, each said pole end having a pole face; and

an axle tube extending through the bobbin and said plural pole plates, the axle tube conducting magnetic flux created by the winding to said plural pole plates;

a half of said plural pole plates being mounted on top of the bobbin and another half of said plural pole plates being mounted to a bottom of the bobbin, the number of the half of said plural pole plates mounted on top of the bobbin being not less than two, the number of the half of said plural plates mounted to the bobbin being not less than two, thereby increasing magnetization, reducing magnetic flux leakage, and gaining effective guided overall magnetic flux by means of increasing an overall thickness for effectively conducting the magnetic flux to said plural pole plates.

2. The stator as claimed in claim 1, wherein there are two pole plates mounted to each of the top and the bottom of the bobbin to thereby form a stator having four poles.

3. The stator as claimed in claim 1, wherein there are three pole plates mounted to each of the top and the bottom of the bobbin to thereby form a stator having six poles.

4. The stator as claimed in claim 1, wherein the pole face of each of said plural pole plates extends along a plane perpendicular to a general plane of the respective pole plate.

5. The stator as claimed in claim 1, wherein the pole face of each of said plural pole plates includes an inclined side.

6. The stator as claimed in claim 1, wherein the pole face of each of said plural pole plates is a trapezoid.

7. A stator comprising:

a bobbin having an axial winding wound therearound;

plural pole plates each having two diametrically disposed pole ends, each said pole end having a pole face; and

an axle tube extending through the bobbin and said plural pole plates, the axle tube conducting magnetic flux created by the winding to said plural pole plates;

a half of said plural pole plates being mounted on top of the bobbin and another half of said plural pole plates being mounted to a bottom of the bobbin, the number of the half of said plural pole plates mounted on top of the bobbin being not less than two, the number of the half of said plural plates mounted to the bobbin being not less than two, thereby increasing magnetization, reducing magnetic flux leakage, and gaining effective guided overall magnetic flux by means of increasing an overall thickness for effectively conducting the magnetic flux to said plural pole plates.

8. The stator as claimed in claim 7, wherein there are two pole plates mounted to each of the top and the bottom of the bobbin to thereby form a stator having eight poles.

9. The stator as claimed in claim 7, wherein the pole face of each of said plural pole plates extends along a plane perpendicular to a general plane of the respective pole plate.

10. The stator as claimed in claim 7, wherein the pole face of each of said plural pole plates includes an inclined side.

11. The stator as claimed in claim 7, wherein the pole face of each of said plural pole plates is a trapezoid.